RUDRAPRASAD CONSULTANTS

NAME OF WORK: **DRILLING OF BOREWELLS AND PROVIDING PUMP AND MOTOR AND LAYING PIPE LINE AT VINAYAKANAGARA, DWARAKANAGARA, KATTIGENAHALLI SURROUNDING AREA IN WARD No.05 BYATARAYANAPURA SUB DIVISION**

(PACKAGE -03)

DETAILED PROJECT REPORT

SUBMITTED TO B.B.M.P, BANGALORE

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BRUHAT BENGALURU MAHANAGARA PALIKE

DRILLING OF BOREWELLS AND PROVIDING PUMP AND MOTOR AND LAYING PIPE LINE AT VINAYAKANAGARA, DWARAKANAGARA, KATTIGENAHALLI SURROUNDING AREA IN WARD No.05 BYATARAYANAPURA SUB DIVISION

DETAILED PROJECT REPORT

(PACKAGE -03)

RUDRAPRASAD CONSULTANTS BANGALORE

RUDRAPRASAD CONSULTANTS
Structural Engineers, Architects &
Project management Consultants
No.3, 7th Main,
Malleswaram Bengaluru-560003

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PROJECT: DRILLING OF BOREWELS INSTALLATION OF PUMP AND MOTORS, PROVIDING PIPELINE AND ADDITIONAL MOTOR PUMPS AND NECESSARY ACCESSORIES TO EXISTING BOREWELLS IN WARD N0.6

INTRODUCTION:

BENGALURU

Bengaluru officially known as Bangalore, is the capital of Indian state of Karnataka. It has a population of about 8.42 million and a metropolitan population of about 8.52 million **out of which 31400 populations is present in Ward no.5 having an area of 9.6 Sq.km,** Bangalore is the third most populous city and fifth most populous urban agglomeration in India. Located in southern India on the Deccan Plateau, at a height of over 900 m (3,000 ft) above sea level, Bengaluru is known for its pleasant climate throughout the year. Its elevation is the highest among the major large cities of India.

A succession of South Indian dynasties, the Western Gangas, the Cholas and the Hoysalas, ruled the present region of Bengaluru until in 1537 CE, Kempegowda a feudal ruler under the Vijayanagara Empire – established a mud fort considered to be the foundation of modern Bengaluru. The existing Kannada name, Bengaluru, was declared the official name of the city in 2006.

Now the city is one of the fastest growing cities in Asia. Bengaluru is known as the "Silicon Valley of India" (or "IT capital of India") because of its role as the nation's leading information technology (IT) export. Indian technological organizations ISRO, Infosys and Wipro are headquartered in the city. A

demographically diverse city, Bengaluru is the second fastest-growing major metropolis in India. It is home to many educational and research institutions in India, such as Indian Institute of Science (IISc), Indian Institute of Management (Bengaluru) (IIMB), National Institute of Fashion Technology, Bengaluru, National Institute of Design, Bengaluru (NID R&D Campus), National Law School of India University (NLSIU) and National Institute of Mental Health and Neurosciences (NIMHANS). Numerous state owned aerospace and defence organisations, such as Bharat Electronics, Hindustan Aeronautics and National Aerospace Laboratories are located in the city. The city also houses the Kannada film industry. As a growing metropolitan city in a developing country, Bengaluru confronts substantial pollution and other logistical and socio-economic problems with a gross domestic product (GDP) of $83 billion. Bengaluru is ranked fourth in India by overall GDP contribution, after only Mumbai, Delhi and Kolkata

Along with the population the city has also seen many improvements in infrastructure road, highways. Flyovers are taking great part in the reduction of traffic.

Real estate is a critical aspect of much of the growth. The IT capital Bengaluru has surpassed both the commercial and political capitals of India as the top investment destination in the property market.

BRUHAT BENGALURU MAHANAGARA PALIKE:

The **Bruhat Bengaluru Mahanagara Palike (BBMP)** is the administrative body responsible for the civic and infrastructural assets of the Greater Bengaluru metropolitan area.

The BBMP represents the third level of government, (the Central government and State Government being the first two levels). Bruhat Bengaluru Mahanagara Palike is run by a city council. The city council comprises elected representatives, called "corporators", one from each of the wards (localities) of the city. Elections to the council are held once every five years, with results being decided by popular vote. Members contesting elections to council represent one of more of the state's political parties. First elections to the newly created body were held on 28 March 2010, after the delays due to delimitation of wards and finalising voter lists.

The Bruhat Bengaluru Mahanagara Palike is the fourth largest Municipal Corporation in India, after the city corporations that administer Mumbai, Delhi and Chennai. The BBMP is responsible for infrastructural assets of the Greater Bengaluru Metropolitan area, spread across 741 km^2, with a population of 6.8 million.

Its roles and responsibilities include the "orderly development of the city" zoning and building regulations, health, hygiene, licensing, trade and education, as well as quality of life issues such as lung spaces, water bodies, parks and greenery

OBJECTIVE OF THE PROJECT:

Ward No.05 having a population of approximately 31400 spread across an area of 9.6 Sq.km, has no water supply through BWSSB. The main source of water supply is through bore wells. Currently there is One Ninety Number of bore wells supplying water for a population of 31400. Hence additional Borewells are required to meet the increasing demand. Presently, there is no sufficient supply of water in Ward No. 05. Therefore, this Ward have been surveyed for laying of Bore wells in order to minimize water problems and meet daily water requirements of the local people. Hence **the main objective of this project is to provide water supply through additional bore wells for the residents of Ward no. 05.**

In this project, Fourteen number of Borewells have been proposed in Ward No.5.

Improvisation of locality with good infrastructure and facilities would contribute towards the beautification of the town.

To encourage such constructions, Bruhat Bengaluru Mahanagara Palike is desirous of **"DRILLING OF BOREWELLS AND PROVIDING PUMP AND MOTOR AND LAYING PIPE LINE AT VINAYAKANAGARA, DWARAKANAGARA, KATTIGENAHALLI SURROUNDING AREA IN WARD No.05 BYATARAYANAPURA SUB DIVISION".** The residents in Ward No.05 will be benefitted by this Project

Criteria for site selection

The following criteria were used to assist in selecting Borewell location:

- People's need
- Water Availability
- Accessibility
- Availability and
- Financial viability

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FEATURES OF THE PROJECT

Location	: Ward No. 05, Bangalore
Land use as per master plan	: Borewells
Ownership	: Bruhat Bengaluru Mahanagara Palike
Possession	: Bruhat Bengaluru Mahanagara Palike
Essential service	: Water Supply
Cost of the project	: Rs One Crore Fifty Lakhs Only
Commencement of the project	: After the approval from the Competent body
Completion date as per agreement	: Nine months from the issue of work order

FEATURES OF THE PROJECT INCLUDES:

- Fourteen numbers of Borewells have been proposed in Ward No.5

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FEASIBILITY STUDY

This project, "DRILLING OF BOREWELLS AND PROVIDING PUMP AND MOTOR AND LAYING PIPE LINE AT VINAYAKANAGARA, DWARAKANAGARA, KATTIGENAHALLI SURROUNDING AREA IN WARD No.05 BYATARAYANAPURA SUB DIVISION" has viewed feasibility as involving the analysis of both social and financial issues.

The social component of the feasibility analysis involves understanding the following:

- Needs of local area people (both current and projected)
- The needs of service providers (both current and projected)
- Projected population growth and
- Public facility provision principles, standards and benchmarks

The financial component of the feasibility analysis was based on the fundamental assumption that BBMP would retain ownership of its real property and to provide an ability to respond flexibly to the changing needs and priorities. It has involved understanding:

- Any further development potential on the proposed site and potential uses
- The cost of providing the whole development

The feasibility Report of the project is concluded with the key features of the project planning proposals along with the area statement

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BUDGET PROVISION:

In the proposed budget of Bengaluru Mahanagara Palike i.e., 2019-20 Rs.1,50,00,000.00 (Rupees One Crore Fifty Lakhs Only) has been provided for the project, "DRILLING OF BOREWELLS AND PROVIDING PUMP AND MOTOR AND LAYING PIPE LINE AT VINAYAKANAGARA, DWARAKANAGARA, KATTIGENAHALLI SURROUNDING AREA IN WARD No.05 BYATARAYANAPURA SUB DIVISION"

CONCLUDING REMARKS:

This project, "DRILLING OF BOREWELLS AND PROVIDING PUMP AND MOTOR AND LAYING PIPE LINE AT VINAYAKANAGARA, DWARAKANAGARA, KATTIGENAHALLI SURROUNDING AREA IN WARD No.05 BYATARAYANAPURA SUB DIVISION" will be useful as per the requirements. The residents of Ward No. 05 and surrounding area people will be benefitted by this project.

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DRAFT TENDER SCHEDULE

BRUHAT BANGALORE MAHANAGARA PALIKE

NAME OF THE PROJECT: DRILLING OF BOREWELLS AND PROVIDING PUMP AND MOTOR AND LAYING PIPE LINE AT VINAYAKANAGARA, DWARAKANAGARA, KATTIGENAHALLI SURROUNDING AREA IN WARD No.05 BYATARAYANAPURA SUB DIVISION

DRAFT TENDER SCHEDULE

Sl.no	Description of Work	Unit	Total Quantity as	Rate as per estimate in Rs.	
				In Figures	In Words
1	Geophysical investigation of site for sinking Borewell for supplying drinking water to the habitation either through the Hand pump, MWS of P.W.S.S by vertical electrical sounding by adopting Venner or Schlumberger's method, including reconnaissance survey of geological formation, Gerophysical investigation of existing Ground Wate in the vicinity, its quality & acceptability of the users indicating the location of site, recommended depth of casing pipe required to seal the top unconsolidated formation including an extra depth of 1.0 meter in consolidated formation for proper seating of casing pipe, depth of drilling required to cover full depth of aquifer proposed to be tapped, probable yield and other information required including transportation of instrument and accessories to work site., engaging techinical personal and labour required etc complete as per specifications and directions of Engineer in charge of work.	Each BW	14.00	3768.00	Rupees Three Thousand Seven Hundred Sixty Eight Only
2	Sinking borewell of 165 mm dia clear using super fast hydraulic rig of capacity 250 PSIG & above CFM & above in all strats including over burden upto 20 mts fixing of casing pipes, collars and cap with necessary cutting, throading and welding including transportation of rig and supporing vehicles, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimum working of compressor for one hour (excluding coat of casing pipes, collars and cap etc.,) ,with all lead and lift, loading, unloading and labour charges etc., complete and as per the directions of the Engineer-in-charge of the work 0-50mtrs.	Rmtr	700.00	347.00	Rupees Three Hundred Forty Seven Only
2a	50 to 100	Rmtr	700.00	442.00	Rupees Four Hundred Forty Two Only
2b	100 to 150	Rmtr	700.00	456.00	Rupees Four Hundred Fifty Six Only
2c	150 to 200	Rmtr	700.00	536.00	Rupees Five Hundred Thirty Six Only
2d	200 to 250	Rmtr	700.00	634.00	Rupees Six Hundred Thirty Four Only
2e	250 to 300	Rmtr	700.00	700.00	Rupees Seven Hundred Only

Sl.no	Description of Work	Unit	Total Quantity as	Rate as per estimate in Rs.	
				In Figures	In Words
2f	300 to 350	Rmtr	700.00	825.00	Rupees Eight Hundred Twenty Five Only
2g	350 to 400	Rmtr	700.00	900.00	Rupees Nine Hundred Only
3	Supply of ISI mark 175 mm nominal bore medium black ERW casing pipe of 5 mm thick black electric resistance continuous welded mild steel tube material confirming to IS 1387 / 1993 & manufactured from hot rolled steel skelp / stripes in random length of 4 to 7 mts both ends threaded confirming to IS 554 / 1985, one end fixed with a socket and the other and with a plastic protection end (including of all taxes) ,with all lead and lift, loading, unloading and labour charges etc., complete and as per the directions of the Engineer-in-charge of the work.	Rmtr	840.00	1364.75	Rupees One Thousand Three Hundred Sixty Four and Seventy Five Paise Only
4	Providing and fixing 250mm dia PVC Pipe and as per specification and directions of Engineer in charge of work.	Rmtr	140.00	1133.00	Rupees One Thousand One Hundred Thirty Three Only
5	175mm dia M.S. Casing cap complete as per specifications and directions of Engineer in charge of work.	Each	14.00	103.00	Rupees One Hundred Three Only
6	M.S. Casing pipe collars 'C' Class complete as per specifications and directions of Engineer in charge of work.	Each	140.00	154.50	Rupees One Hundred Fifty Four and Fifty Paise Only
7	Fabrication supplying and mounting MS box of 16 SWG suitable for floor /wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished 2 coats of red oxide primer paint and finally finished with approved colour enamelled metal paint etc., complete box of 21600 sqcm with all lead and lift, loading, unloading and labour charges etc., complete and as per the directions of the Engineer-in-charge of the work.	Sq.cm	308000.00	0.34	Thirty Three Paise Only
8	Labour charges for erection as new /repaired submercible pumpset allong with GI pipe (32/50mm) cable (new submercible pumpset if required will be supplied by the department free of cost and released pumpset shoud be handed over to department including transportation (Each lenth =6.00) complete as per specifications and directions of Engineer in charge of work.	per length	826.00	90.64	Rupees Ninety and Sixty Four Paise Only

Sl.no	Description of Work	Unit	Total Quantity as	Rate as per estimate in Rs.	
				In Figures	In Words
9	Erection of combined panel board meter board with all necessary materials and labour including providing CC 1:3:6 foundation bed etc,. Complete for basement out door type.(MR) complete as per specifications and directions of Engineer in charge of work.	Nos	14.00	475.00	Rupees Four Hundred Seventy Five Only
10	Supplying and fixing of Porcelain fuse channel with cut out on existing wooden / panel using necessary nuts, bolts and washer etc.,with all lead and lift, loading, unloading and labour charges etc., complete and as per the directions of the Engineer-in-charge of the work.	Nos	42.00	150.00	Rupees One Hundred Fifty Only
11	Supplying and laying of LT UG cable having aluminum conductor PVC insulated sheathed, galvanized, steel wire/steel tape armoured cable with PVC outer sheathing 1.1 KV class 4 core 16 sqmm cable complete as per specifications and directions of Engineer in charge of work.	Mtr	532.00	169.95	Rupees One Hundred Sixty Nine and Ninety Five Paise Only
12	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete sutting road surfaces complete as per specifications and directions of Engineer in charge of work.	Mtr	532.00	85.00	Rupees Eighty Five Only
13	Supplying and fixing of class A GI pipe on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV class 40mm complete as per specifications and directions of Engineer in charge of work.	Mtr	42.00	294.58	Rupees Two Hundred Ninety Four and Fifty Eight Paise Only
14	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit … The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 122 mm dia, complete as per specifications and directions of Engineer in charge of work.	Nos	14.00	2727.00	Rupees Two Thousand Seven Hundred Twenty Seven Only
15	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class 16sqmmUG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc. complete as per specifications and directions of Engineer in charge of work.	Nos	14.00	280.00	Rupees Two Hundred Eighty Only

Sl.no	Description of Work	Unit	Total Quantity as	Rate as per estimate in Rs.	
				In Figures	In Words
16	Supplying and fixing of polished wood board made of not less than 15mm thick plank on both sides with planks made out of not more than 2 pieces and fixing the same to the wall using tapered inverted wooden plugs screws etc.,Size 20 x 20 x 2.5 inches with all lead and lift, loading, unloading and labour charges etc., complete and as per the directions of the Engineer-in-charge of the work.	Nos	14.00	311.58	Rupees Three Hundred Eleven and Fifty Seven Paise Only
17	Borewell Cap and Clamp Set complete as per specifications and directions of Engineer in charge of work.	Set	14.00	1800.00	Rupees One Thousand Eight Hundred Only
18	Supply and delivery at site brand New texmo/ innoval/ Lubi/ Sabar / Atalanta/ Calamal/ make suitable for vertical installation in 150mm dia bore well comprising of single stage or multistage CF pump close coupled by measns of stainless steel coupling to suitable HP suitable speed totally enclosed and filled with pure drinking water (Wet type) squirrel cage submersible induction motor suitable for opertation of 3PH., 50 Hz, 380/440 volts AC supply fitted with required aqccessories such as suction, casing suction strainers sand guard Non return value etc. complete . The pump and motor shall form an integral unit with all the required fittings 17.50 HP 30 stage complete as per specifications and directions of Engineer in charge of work.	Nos	4.00	72126.00	Rupees Seventy Two Thousand One Hundred Twenty Six Only
19	Supply and delivery at site brand New texmo/ innoval/ Lubi/ Sabar / Atalanta/ Calamal/ make suitable for vertical installation in 150mm dia bore well comprising of single stage or multistage CF pump close coupled by measns of stainless steel coupling to suitable HP suitable speed totally enclosed and filled with pure drinking water (Wet type) squirrel cage submersible induction motor suitable for opertation of 3PH., 50 Hz, 380/440 volts AC supply fitted with required aqccessories such as suction, casing suction strainers sand guard Non return value etc. complete . The pump and motor shall form an integral unit with all the required fittings 20 HP 40 Stage complete as per specifications and directions of Engineer in charge of work.	Nos	5.00	90595.00	Rupees Ninety Thousand Five Hundred Ninety Five Only

Sl.no	Description of Work	Unit	Total Quantity as	Rate as per estimate in Rs.	
				In Figures	In Words
20	Supply and delivery at site brand New texmo/ innoval/ Lubi/ Sabar / Atalanta/ Calamal/ make suitable for vertical installation in 150mm dia bore well comprising of single stage or multistage CF pump close coupled by measns of stainless steel coupling to suitable HP suitable speed totally enclosed and filled with pure drinking water (Wet type) squirrel cage submersible induction motor suitable for opertation of 3PH., 50 Hz, 380/440 volts AC supply fitted with required aqccessories such as suction, casing suction strainers sand guard Non return value etc. complete . The pump and motor shall form an integral unit with all the required fittings 25 HP 50 Stage complete as per specifications and directions of Engineer in charge of work.	Nos	5.00	125677.00	Rupees One lakh Twenty Five Thousand Six Hundred Seventy Seven Only
21	Providing, laying & joining GI pipes confirming to IS specification of approved make with fittings such as collars bends elbows tees nipples plugs with cuts threads using white lead & threads for joints wherever necessary as per direction including all lead & lift etc,. complete 'A' grade(excluding cost of fittings) 50mm dia GI pipe B Class complete as per specifications and directions of Engineer in charge of work.	Rmtr	4956.00	415.00	Rupees Four Hundred Fifteen Only
22	Supply and fixing Collar for GI Pipes 50MM complete as per specifications and directions of Engineer in charge of work.	Nos	840.00	180.00	Rupees One Hundred Eighty Only
23	Supplying of submersible pump cable 1X3X6 Sqmm complete as per specifications and directions of Engineer in charge of work.	Mtr	10332.00	144.00	Rupees One Hundred Forty Four Only
24	Supplying & delivery at site brand new / Essen / lotus sunsines/Adarsh/Gk controls best indigenous make combine energy meter-cum-control panel board unit of size 1200 x 600 x 300 mm minimum mechanically strong and vermin and water proof the unit shall have two detachable doors suitable for operation on 3ph,50Hz, 380/440 volts, AC supply with spring loaded latch locking with a key ribs should be provided inside the door canopy apron and louvers ventilators shall be provided the combine energy mtr cum control panel board unit suitable for operation on 3ph, 50Hz,380/440 AC supply shall be consisted etc., completed T panel board shall be fabricated on single unit in the above components panel board for suitable pumpset above components panel board for suitable pumpset above Up to 20HP with star delta starter (MR) complete as per specifications and directions of Engineer in charge of work.	Nos	14.00	21000.00	Rupees Twenty One Thousand Only
25	Supplying & delivery of brand 50mm Gate Valve complete as per specifications and directions of Engineer in charge of work.	Nos	14.00	1800.00	Rupees One Thousand Eight Hundred Only

Sl.no	Description of Work	Unit	Total Quantity as	Rate as per estimate in Rs.	
				In Figures	In Words
26	Supplying & delivery of brand 50mm Non Return Valve complete as per specifications and directions of Engineer in charge of work.	Nos	14.00	1800.00	Rupees One Thousand Eight Hundred Only
27	Supplying and fixing MCB complete as per specifications and directions of Engineer in charge of work.	Nos	14.00	900.00	Rupees Nine Hundred Only
28	Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in Ordinary soil not exceeding 1.5m in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50m after breaking of clods complete as per specifications and directions of Engineer in charge of work.	Cum	1719.90	316.94	Rupees Three Hundred Sixteen and Ninety Four Paise Only
29	Providing and installing at site of work 63mm (0.662) PVC Pipes of 6kg / cm2 including cost of pipes and specials and labour, including lowering into trenches, laying true to line, level and perfect linking at joints leak proof including joining of approved type with all labour and lift charges, handling charges including encasing the pipe alround to a depth not less than 15cms with gravel or selected earth available from the excavation etc., complete as per specifications and directions of Engineer in charge of work.	Mtr	3822.00	394.32	Rupees Three Hundred Ninety Four and Thirty Two Paise Only
30	Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m and lift upto 1.5m including cost of all labour complete as per specifications and directions of Engineer in charge of work.	Cum	1719.90	128.26	Rupees One Hundred Twenty Eight and Twenty Six Paise Only

"DTS Approved"

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Executive Engineer 20/03
BBMP

BILL OF QUANTITIES

BRUHAT BANGALORE MAHANAGARA PALIKE

NAME OF THE PROJECT: DRILLING OF BOREWELLS AND PROVIDING PUMP AND MOTOR AND LAYING PIPE LINE AT VINAYAKANAGARA, DWARAKANAGARA, KATTIGENAHALLI SURROUNDING AREA IN WARD No.05 BYATARAYANAPURA SUB DIVISION

BILL OF QUANTITIES

Slno	Description of Work	Unit	Total Quantity as per Estimation	Rate as per estimate in Rs.	
				In Figures	In Words
1	Geophysical investigation of site for sinking Borewell for supplying drinking water to the habitation either through the Hand pump, MWS of P.W.S.S by vertical electrical sounding by adopting Venner or Schlumberger's method, including reconnaissance survey of geological formation, Gerophysical investigation of existing Ground Wate in the vicinity, its quality & acceptability of the users indicating the location of site, recommended depth of casing pipe required to seal the top unconsolidated formation including an extra depth of 1.0 meter in consolidated formation for proper seating of casing pipe, depth of drilling required to cover full depth of aquifer proposed to be tapped, probable yield and other information required including transportation of instrument and accessories to work site., engaging techinical personal and labour required etc complete as per specifications and directions of Engineer in	Each BW	14.00		
2	Sinking borewell of 165 mm dia clear using super fast hydraulic rig of capacity 250 PSIG & above CFM & above in all strats including over burden upto 20 mts fixing of casing pipes, collars and cap with necessary cutting, throading and welding including transportation of rig and supporing vehicles, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimum working of compressor for one hour (excluding coat of casing pipes, collars and cap etc.,) ,with all lead and lift, loading, unloading and labour charges etc., complete and as per the directions of the Engineer-in-charge of the work 0-50mtrs.	Rmtr	700.00		
2a	50 to 100	Rmtr	700.00		
2b	100 to 150	Rmtr	700.00		
2c	150 to 200	Rmtr	700.00		
2d	200 to 250	Rmtr	700.00		
2e	250 to 300	Rmtr	700.00		
2f	300 to 350	Rmtr	700.00		
2g	350 to 400	Rmtr	700.00		

Sl.no	Description of Work	Unit	Total Quantity as per Estimation	Rate as per estimate in Rs.	
				In Figures	In Words
3	Supply of ISI mark 175 mm nominal bore medium black ERW casing pipe of 5 mm thick black electric resistance continuous welded mild steel tube material confirming to IS 1387 / 1993 & manufactured from hot rolled steel skelp / stripes in random length of 4 to 7 mts both ends threaded confirming to IS 554 / 1985, one end fixed with a socket and the other and with a plastic protection end (including of all taxes) ,with all lead and lift, loading, unloading and labour charges etc., complete and as per the directions of the Engineer-in-charge of the work.	Rmtr	840.00		
4	Providing and fixing 250mm dia PVC Pipe and as per specification and directions of Engineer in charge of work.	Rmtr	140.00		
5	175mm dia M.S. Casing cap complete as per specifications and directions of Engineer in charge of work.	Each	14.00		
6	M.S. Casing pipe collars 'C' Class complete as per specifications and directions of Engineer in charge of work.	Each	140.00		
7	Fabrication supplying and mounting MS box of 16 SWG suitable for floor /wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished 2 coats of red oxide primer paint and finally finished with approved colour enamelled metal paint etc., complete box of 21600 sqcm with all lead and lift, loading, unloading and labour charges etc., complete and as per the directions of the Engineer-in-charge of the work.	Sq.cm	308000.00		
8	Labour charges for erection as new /repaired submercible pumpset allong with GI pipe (32/50mm) cable (new submercible pumpset if required will be supplied by the department free of cost and released pumpset shoud be handed over to department including transportation (Each lenth =6.00) complete as per specifications and directions of Engineer in charge of work.	per length	826.00		
9	Erection of combined panel board meter board with all necessary materials and labour including providing CC 1:3:6 foundation bed etc,. Complete for basement out door type.(MR) complete as per specifications and directions of Engineer in charge of work.	Nos	14.00		
10	Supplying and fixing of Porcelain fuse channel with cut out on existing wooden / panel using necessary nuts, bolts and washer etc.,with all lead and lift, loading, unloading and labour charges etc., complete and as per the directions of the Engineer-in-charge of the work.	Nos	42.00		

Sl.no	Description of Work	Unit	Total Quantity as per Estimation	Rate as per estimate in Rs.	
				In Figures	In Words
11	Supplying and laying of LT UG cable having aluminum conductor PVC insulated sheathed, galvanized, steel wire/steel tape armoured cable with PVC outer sheathing 1.1 KV class 4 core 16 sqmm cable complete as per specifications and directions of Engineer in charge of work.	Mtr	532.00		
12	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete sutting road surfaces complete as per specifications and directions of Engineer in charge of work.	Mtr	532.00		
13	Supplying and fixing of class A GI pipe on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV class 40mm complete as per specifications and directions of Engineer in charge of work.	Mtr	42.00		
14	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit … The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 122 mm dia, complete as per specifications and directions of Engineer in charge of	Nos	14.00		
15	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class 16sqmmUG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc. complete as per specifications and directions of Engineer in charge of work.	Nos	14.00		
16	Supplying and fixing of polished wood board made of not less than 15mm thick plank on both sides with planks made out of not more than 2 pieces and fixing the same to the wall using tapered inverted wooden plugs screws etc.,Size 20 x 20 x 2.5 inches with all lead and lift, loading, unloading and labour charges etc., complete and as per the directions of the Engineer-in-charge of the work.	Nos	14.00		
17	Borewell Cap and Clamp Set complete as per specifications and directions of Engineer in charge of work.	Set	14.00		

Sl.no	Description of Work	Unit	Total Quantity as per Estimation	Rate as per estimate in Rs.	
				In Figures	In Words
18	Supply and delivery at site brand New texmo/ innoval/ Lubi/ Sabar / Atalanta/ Calamal/ make suitable for vertical installation in 150mm dia bore well comprising of single stage or multistage CF pump close coupled by measns of stainless steel coupling to suitable HP suitable speed totally enclosed and filled with pure drinking water (Wet type) squirrel cage submersible induction motor suitable for opertation of 3PH., 50 Hz, 380/440 volts AC supply fitted with required aqccessories such as suction, casing suction strainers sand guard Non return value etc. complete . The pump and motor shall form an integral unit with all the required fittings 17.50 HP 30 stage complete as per specifications and directions of Engineer in charge of work.	Nos	4.00		
19	Supply and delivery at site brand New texmo/ innoval/ Lubi/ Sabar / Atalanta/ Calamal/ make suitable for vertical installation in 150mm dia bore well comprising of single stage or multistage CF pump close coupled by measns of stainless steel coupling to suitable HP suitable speed totally enclosed and filled with pure drinking water (Wet type) squirrel cage submersible induction motor suitable for opertation of 3PH., 50 Hz, 380/440 volts AC supply fitted with required aqccessories such as suction, casing suction strainers sand guard Non return value etc. complete . The pump and motor shall form an integral unit with all the required fittings 20 HP 40 Stage complete as per specifications and directions of Engineer in charge of work.	Nos	5.00		
20	Supply and delivery at site brand New texmo/ innoval/ Lubi/ Sabar / Atalanta/ Calamal/ make suitable for vertical installation in 150mm dia bore well comprising of single stage or multistage CF pump close coupled by measns of stainless steel coupling to suitable HP suitable speed totally enclosed and filled with pure drinking water (Wet type) squirrel cage submersible induction motor suitable for opertation of 3PH., 50 Hz, 380/440 volts AC supply fitted with required aqccessories such as suction, casing suction strainers sand guard Non return value etc. complete . The pump and motor shall form an integral unit with all the required fittings 25 HP 50 Stage complete as per specifications and directions of Engineer in charge of work.	Nos	5.00	125677.00	

Sl.no	Description of Work	Unit	Total Quantity as per Estimation	Rate as per estimate in Rs.	
				In Figures	In Words
21	Providing, laying & joining GI pipes confirming to IS specification of approved make with fittings such as collars bends elbows tees nipples plugs with cuts threads using white lead & threads for joints wherever necessary as per direction including all lead & lift etc,. complete 'A' grade(excluding cost of fittings) 50mm dia GI pipe B Class complete as per specifications and directions of Engineer in charge of work.	Rmtr	4956.00		
22	Supply and fixing Collar for GI Pipes 50MM complete as per specifications and directions of Engineer in charge of work.	Nos	840.00		
23	Supplying of submersible pump cable 1X3X6 Sqmm complete as per specifications and directions of Engineer in charge of work.	Mtr	10332.00		
24	Supplying & delivery at site brand new / Essen / lotus sunsines/Adarsh/Gk controls best indigenous make combine energy meter-cum-control panel board unit of size 1200 x 600 x 300 mm minimum mechanically strong and vermin and water proof the unit shall have two detachable doors suitable for operation on 3ph,50Hz, 380/440 volts, AC supply with spring loaded latch locking with a key ribs should be provided inside the door canopy apron and louvers ventilators shall be provided the combine energy mtr cum control panel board unit suitable for operation on 3ph, 50Hz,380/440 AC supply shall be consisted etc., completed T panel board shall be fabricated on single unit in the above components panel board for suitable pumpset above components panel board for suitable pumpset above Up to 20HP with star delta starter (MR) complete as per specifications and directions of Engineer in charge of work.	Nos	14.00		
25	Supplying & delivery of brand 50mm Gate Valve complete as per specifications and directions of Engineer in charge of work.	Nos	14.00		
26	Supplying & delivery of brand 50mm Non Return Valve complete as per specifications and directions of Engineer in charge of work.	Nos	14.00		
27	Supplying and fixing MCB complete as per specifications and directions of Engineer in charge of work.	Nos	14.00		
28	Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in Ordinary soil not exceeding 1.5m in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50m after breaking of clods complete as per specifications and directions of Engineer in charge of work.	Cum	1719.90		

Sl.no	Description of Work	Unit	Total Quantity as per Estimation	Rate as per estimate in Rs.	
				In Figures	In Words
29	Providing and installing at site of work 63mm (0.662) PVC Pipes of 6kg / cm2 including cost of pipes and specials and labour, including lowering into trenches, laying true to line, level and perfect linking at joints leak proof including joining of approved type with all labour and lift charges, handling charges including encasing the pipe alround to a depth not less than 15cms with gravel or selected earth available from the excavation etc., complete as per specifications and directions of Engineer in charge of work.	Mtr	3822.00		
30	Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m and lift upto 1.5m including cost of all labour complete as per specifications and directions of Engineer in charge of work.	Cum	1719.90		

Executive Engineer
BBMP

ANNEXURES

WARD MAP

BRUHAT BENGALURU MAHANAGARA PALIKE
5-JAKKURU